

Notice of Allowability	Application No.	Applicant(s)	
	10/737,223	PARK ET AL.	
	Examiner	Art Unit	
	Aung S. Moe	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the communication filed on 9/11/06.
2. ☒ The allowed claim(s) is/are 1-6 (renumbered as 1-6 respectively).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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Inventorship

1. In view of the papers filed on September 11, 2006, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by adding “Joong-Hoo Park” as a con-inventor.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

Response to Amendment

2. Applicant's request for reconsideration of the rejection of the last Office action by adding “Joong-Hoo Park” as a co-inventor to overcome the 35 USC 102(a) is persuasive and, therefore, the 35 USC 102(a) rejection of that action is withdrawn.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance: Claims 1-3 are considered over the prior art of record since prior art of record fails to show or fairly suggest an

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apparatus for channel estimation by using a non-linear filter, including: a multiplier for multiplying an input signal by a reference pilot signal; a filter for calculating the average value of pilot signals; an interpolator for computing a tentative estimation value of channel variation by using linear interpolation algorithms based on the average value of pilot signal; a tentative channel estimation compensator for compensating a channel variable of the data signal delayed in a predetermined time based on the tentative estimation value of channel variation; a decision block unit for tentatively determining a sign of data signal based on the compensated data signals; a raw channel estimator for computing a raw channel estimation value based on the output signal of the decision block unit and the data signal delayed in a predetermined time; and a non-linear filter for computing a final channel estimation value of channel variation based on the tentative estimation value of channel variation and the raw channel estimation value as substantially described and connected in an independent claim.

Claims 4-6 are considered over the prior art of record since prior art of record fails to show or fairly suggest a method for making channel estimations using a non-linear filter, the method including the steps of: a) calculating the average value of pilot signals; b) computing a tentative estimation value of channel variation by using a linear interpolation algorithms; c) compensating the channel variation of the data signal delayed in a predetermined time based on the tentative estimation value of channel variation; d) tentatively determining a sign of data signal based on the compensated data signal; e) computing a raw channel estimation value based on the data signal delayed in a predetermined time; and f) computing the final channel estimation value of channel variation using a non-linear filter based on the tentative estimation value of

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channel variation and the raw channel estimation value as substantially described and connected in an independent claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

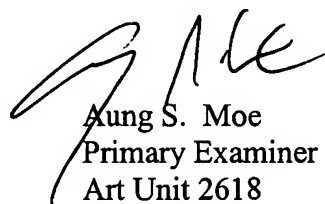
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aung S. Moe whose telephone number is 571-272-7314. The examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Aung S. Moe
Primary Examiner
Art Unit 2618

A. MOE
October 1, 2006